

NOTES ON MESEMBRYANTHEMUM AND ALLIED GENERA

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Conophytum nordenstamii L. Bol. sp. nov. (*Euconophytum-Wettsteiniana*).—Plantae plures visae, caespitosae glabrae; vaginae persistentes anni prioris pallide brunneae vel partim griseae, apice saturate brunneo conspicue punctato; corpuscula obconica vel elongate obconica vel suboblunga, supra plana vel concava vel e margine os versus profunde declinata, pallide glaucae viridia, sat inconspicue saturatioreque viridi punctata, punctis inter minimas visas, 9 mm. longa, apice 8 mm., basi 4 mm., diam., vel 1—1.3 cm. longa, apice 8—10 mm. diam., vel 1—1.3 cm. longa, apice 6 mm. diam.; flores diurni; pedunculi 5—7 mm. longi; bractee basales obtusae, 1.5—2 mm. longae, vagina lobos aequante, sinu angusto; receptaculum ad 1.5 mm. longum, ad 1.75 mm. diam.; calyx ab initio fere omnino membranaceus, 6—7 mm. longus, tubo 4.5—5 mm. longo, inconspicue viridi nervato, nervis in segmenta 4 productis angustissimis, sed tamen marginibus membranaceis amplis; corolla ad 1.6 cm. longa, tubo superne leviter ampliato, albo, ad 1 cm. longo, segmentis ca. 3-seriatis, apice saepius rotundato, prope basim albis, deinde roseis, 1—1.75 mm. latis; filamenta ca. 4-seriata, e parum supra basim adnata, alba vel superiora pallide lutea vel rubra, antheris pollineque aureis; discus inconspicuus, segmentis truncatis; ovarium conice ad 0.5 mm. elevatum; stylus ad 11 mm. longus; stigmata 4, 1.5 mm., vel in flore unico ad 2.5 mm., longa; capsula supra visa obscure 4-angulata, infra semiglobosa albida, supra plana, medio tantum leviter elevata, suturis vix compressis, ad 4 mm., expansa 8 mm., diam.; semina late piriformia brunnea, ca. 0.5 mm. longa.

Cape Province: Namaqualand; Stinkfontein, Oct. 1962, *B. Nordenstam* 1243. N.B.G. 821/62. Fl. Apr. 1963.

Conophytum graciliramosum L. Bol. sp. nov. (*Derenbergia*).—Planta 1 visa, glabra, 6.3 cm. alta; rami graciles (itaque nomen), 3 cm. longi, 1.5—2 mm. diam., internodiis 4—5 mm. longis, in reliquiis vaginarum persistentium inclusis; corpuscula sat elongate cordata ob basim substipitatum, levia, saturate viridia, basim versus purpurea, ad 3.1 cm. longa, medio vaginae 9 mm. lato, prope apicem 1.3—2.2 cm. diam. cum divergio 5—12 mm. longo, lobis supra visis acutis, lat. visis rotundatis vel fere rotundatis, 8—12 mm. longis, basi 8 mm. lato et 6—9 mm. diam.; flores 2 visi; pedunculi 1.2—1.5 cm. longi; bractee herbaceae acutae vel subobtusae, sinu angusto, 4 mm. longae, vagina lobos subaequante; receptaculum 2 mm. longum, 3 mm. diam.; calyx 1 cm.

longus, tubo membranaceo, viridi 5-nervato, 5 mm. longo, segmentis 5, herbaceis obtusis, brunneo viridibus, 4—5 mm. longis, ad 1·5 mm. latis; corolla 1·9 cm. longa, tubo superne leviter ampliato, albo vel in flore maturo pallide luteo, 9 mm. longo, segmentis 2—3-seriatis, apice rotundato, luteis, ad 1·25 mm. latis; filamenta ca. 6—7-seriata, e basi adnata, inferiora alba, superiora lutea, antheris pollineque pallide luteis; ovarium ad 1 mm. conice elevatum; stylus ab ovario non bene distinctus, ca. 2 mm. longus; stigmata 5, ad 9 mm. longa.

Cape Province: Namaqualand; Kuboos, Richtersveld, "collected in 1962, few specimens seen," *P. van Heerde*. Bolus Herb. 27416. Fl. hort. van Heerde Apr. 1963.

Conophytum supremum L. Bol. sp. nov. (*Derenbergia*).—Planta 1 visa, caespitosa, 11 cm. diam.; vaginae persistentes anni prioris pergamentaceae glaberrimae, intus politae, saturate brunneo punctatae, externe longitudinaliter transverseque rugosae, pallide brunneae, lobis induratis; corpuscula minutissime papillata, oblonge obovata, 3·4—4·2 cm. longa, apice 1·8—2·8 cm. diam. cum divergio 1—1·3 cm., vagina convexa ecarinata, 2·2—2·6 cm. longa, medio 9—12 mm. lato, apice, manu complanato, 1·9—2·7 cm. diam., lobis supra visis planis obtusis, lat. visis truncatis vel rotunde truncatis vel rarius rotundatis, 1·2—1·6 cm. longis, medio 4—5 mm. lato, e basi fere ad apicem 8—10 mm. diam.; pedunculi 1·5—2 cm. longi, 4 mm. e basi bracteati, bracteis carinatis acutis, tenuiter herbaceis, 9 mm. longis cum vagina 3 mm. longa, sinu angusto; calyx demum exsertus, fragilis, 9—10 mm. longus, tubo membranaceo, anguste viridi 5-nervato, 4 mm. longo, segmentis 5, obtusis vel subacutis, angustissimis sed tamen marginibus amplis, 4—6 mm. longis; corolla 2·2—2·7 cm. longa, tubo superne ampliato, albo, 7—8 mm. longo, segmentis 3—4-seriatis, obtusis luteis, 0·75—1·25 mm. latis; filamenta ca. 7-seriata, e basi tubi adnata, lutea, superiora breviter exserta, antheris pollineque aureis; ovarium acutissime conice ad 1—1·75 mm. elevatum; stylus 5—6 mm. longus; stigmata gracillima, 6—8 mm. longa; capsulae anni prioris infra obconicae, 5-angulatae, 4 mm., vel madidae 5 mm., longae, 4—5 mm., vel madidae ad 6 mm., diam., supra obtuse 5-angulatae, planae, medio tantum ad 1 mm. elevatae, primum conspicue saturate brunneo punctatae, suturis leviter compressis, expansa 1·2 cm. diam., valvis demum valde recurvatis.

Cape Province: Namaqualand; Richtersveld, "top of Kliphooigte," Jul. 1962, *P. van Heerde*. N.B.G. 892/62. Fl. Jun. 1963.

This species resembles *C. incurvum*, *C. simplum* and *C. umdausense* in that the lobes of the body are of the same diameter for their entire length or very nearly so; but they diverge much more at the apex and the sheath is shorter. It differs also in having the bodies glabrous and not velvety pubescent as in the species quoted above.

Conophytum gonapense L. Bol. var. **numeesicum** L. Bol. var. nov. (*Derenbergia*).—A forma typica lobis corpusculi lat. visis rotundatis praecipue differt.

Corpuscula ad 3·8 cm. longa, parte pellucida inconspicua, in latere altero subquadrata, maculis saturate viridibus cincta, in altero anguste cuneata; stylus ad 5 mm. longus; stigmata 7—8 mm. longa.

Cape Province: Namaqualand; Numees Beacon, Sept. 1962, *P. van Heerde*. Bolus Herb. 27389. Flor. hort. van Heerde Apr. 1963.

Conophytum tumidum N. E. Br. var. **asperulum** L. Bol. var. nov.—A forma typica corpusculis asperulis lobisque breviter papillate pubescentibus; calyce 5-lobato, segmentis 2 mm. longis; segmentis corollae ad 2 mm. latis; stylo 8 mm. longo; stigmatibus ad 3 mm. longis, differt.

Pedunculus 1·6 cm. longus, bracteis 4—6 mm. a basi positus, acutis herbaceis pallidis, ad 6 mm. longis, vagina 0·5—1 mm. longa (brevissima in genere adhuc notata).

Cape Province: Namaqualand; Ratelpoort, *H. Hall* 2416. N.B.G. 561/62. Fl. Jun. 1963.

This is the second collection to be recorded of this species, which was published in 1931, the exact locality in Namaqualand of the type being unknown.

Astridia dulcis L. Bol. sp. nov.—Planta 1 visa, 3 cm. alta; rami stricti, longissimus 7 paria foliorum ferens, internodiis 1·5—3 cm. longis, ad 5 mm. diam.; partes herbaceae glaucae virides, mollissime velutinae, novellissimae fere villosae; folia demum patentia vel rarius erecta, adulta interdum subfalcata, supra visa plana, superne angustata, acuta vel obtusa, lat. visa prope apicem angustata, acuta vel rarius obtusa, in juvenilibus apice leviter recurvato, lateribus leviter convexis, carina saepius ad lineam reducta, 2·5—4·5 cm., vel rarius ad 6 cm., longa cum vagina 1·5 mm., eis sub bracteis brevissimis, medio ad 1 cm. lato et 8—14 mm. diam.; flores solitarii vel 3-nati, lateralibus bracteatis; pedunculi ad 6 mm. longi, prope apicem bracteati, bracteis lat. visis oblique ovatis, acutis vel obtusis, ad 1·4 cm. longis, manu complanatis ad 1·2 cm. latis, ad 8—9 mm. diam., marginibus non, vel obscure, excavatis; receptaculum late obconicum vel semiglobosum, 4—5 mm. longum, 6—8 mm. diam.; sepala carinata, extima 2 obtusa, interiora superne subulata, subula acuta, 8—9 mm. longa, basi 3—7 mm. lata; petala exteriora ca. 3-seriata, e parum supra medium inferne leviter angustata, obtusa, pallide rosea, ad 2·3 cm. longa, 1·5—2 mm. lata, interiora 4-seriata, acuta vel acuminata, in staminodia pauca gracillima, basim versus obscure papillata, transeuntia; filamenta ca. 6-seriata, alba, ad 9 mm. longa, interiora inferne ciliate, prope medium dense, papillata, antheris pollineque aureis; discus profunde denticulatus; ovarii lobi obtuse compressi, interdum discum fere attingentes, 0·5 mm., vel in flore senecto ad 1 mm., elevati, inter infimos in genere adhuc notatos; stigmata gracilia, longe papillata, ad

7 mm. longa cum cauda 1 mm. longa; capsula 1 visa, infra semiglobosa, supra ad 4 mm. elevata, suturis valde compressis, 1·1 cm., expansa 2 cm., diam., tuberculo sat parvo, pallido; semina breviter piriformia, echinata, saturate brunnea, ca. 1·25 mm. longa.

South-West Africa: "5 miles N. of Sendlings Drift," Mart. 1960, *H. Hall* 1869a. Fl. Feb.—Mart. 1963. N.B.G. 175a/60.

A. blandae valde affinis sed foliis lateraliter visis superne angustatis, in novellis apice leviter recurvato, praecipue differt.

Cephalophyllum middlemostii L. Bol. sp. nov. (*Reptantia*).—Cephalo nulla; rami elongati reptantes, 2—3-angulati, demum albidii, 30 cm. longi vel ultra, ad 3 mm. diam., internodiis 1·5—4 cm. longis; folia inter gracillima in genere, supra visa plana, acuta vel acuminata, apiculata, acute carinata vel dorso rotundato, lat. visa acuta, viridia, saepius ad 3·2 cm., rarius ad 4·7 cm., longa cum vagina 2—3 mm. longa, in medio 1·5—3 mm. lata diametroque; ramuli floriferi ascendentes vel erecti, 2—3-fl., floribus lateralibus bracteatis, cum floribus 7—9 cm. longi; pedunculi infra medium bracteati, leviter intrusi, 4—6 cm. longi; receptaculum semiglobosum, 3 mm. longum, 6—7 mm. diam.; sepala 5, valde inaequalia, exteriora infra medium complanata, superne subulata, 8—10 mm. longa, basi 4—5 mm. lata, intima 4—5 mm. longa, basi 3 mm. lata; petala 3-seriata, infra medium vel prope basim leviter angustata, obtusa vel acuta, laete purpureo rosea, externe pallidiora, 1—2 cm. longa, 1—2 mm. lata; filamenta ca. 4-seriata, primum erecta conferta, mox sublaxa adque 7 mm. diam., alba, ad 3·5 mm. longa, antheris pollineque aureis; ovarii lobi fere erecti, superne castellatim compressi, ad 1 mm. elevati; stigmata 10—11, anguste subulata, 1·5—2 mm. longa; capsula anni prioris basi complanata, infra 4 mm. longa, supra ad 1·5 mm. elevata, 1 cm., expansa 1·9 cm., diam., suturis compressis, leviter ringentibus.

Cape Province; "Riversdale District," Apr. 1962, *A. J. Middlemost*. N.B.G. 259/62. Fl. per menses Maium Juniumque, 1963.

Cephalophyllum insigne L. Bol. sp. nov. (*Reptantia*).—Robustum; rami 3 visi, supra 2-angulati, infra rotundati, politi, pallide brunnei, ad 28 cm. longi, internodiis 1·5—3 cm. longis, ad 5 mm. crassis; ramuli steriles saepius 4-foliati, internodio incluso, floriferi cum floribus 6—11 cm. longi; folia erecta, supra visa apicem versus angustata, acuta vel subobtusa, inferne plana, superne leviter convexa, pustula basali conspicua, ecarinata vel carina ad lineam reducta, lateribus convexis, lat. visa superne non, vel leviter, angustata, apice rotundato, 3—8 cm. longa cum vagina ad 7 mm. longa, medio 4—6 mm. lato crassoque; flores ad 6·2 cm. diam., 1—2-nati, cymis bene evolutis non visis; pedunculi 3—4·2 cm. longi, basi bracteati, bracteis 1·3—1·7 cm. longis; receptaculum

semiglobosum, 3—4 mm. longum, 8—9 mm. diam.; sepala 5, basi 3—7 mm. lata, exteriora 2 carinata, lateribus subconvexis, e prope medium superne angustata, 1·2—1·8 cm. longa, interiora prope apicem obtuse subulata, 8—14 mm. longa; petala 2—3-seriata, e parum supra medium inferne angustata, obtusa rubicunda, inferne pallidiora, ad 2·8 cm. longa, 1·75—3 mm. lata; filamenta ca. 3—4-seriata, saturate rubra, basi breviter rubre papillato, antheris atro purpureis, polline sordide brunneo purpureo; ovarii lobi apicem versus subobtusè compressi, ad 1·75 mm. elevati; stigmata 10, gracilia, conspicue fimbriata, ad 3 mm. longa, cauda brevissima.

Cape Province: Namaqualand; Anenous Pass, Sept. 1959, *R. C. Littlewood*. Karoo Garden 357/59. Fl. Jul. 1960 et Jun. 1961.

Ruschia turneriana sp. nov.—Plantae 4, ferae visae, humiles caespitosae, 2—4 cm. altae, caule 5—10 cm. diam.; rami reliquiis multis dense vestiti, eis anni prioris induratis crassisque, senectis papyraceis; ramuli hornotini 2-foliati; partes herbaceae minute velutine pubescentes; folia erecta vel in ramulis florentibus leviter divergentia, supra visa plana, oblonga vel subovalia, acuta vel apice rotundato, lat. visa oblonga, apice subtruncato vel subrotundato, lateribus convexulis, carinata, marginibus carinaeque ciliolatis, glauce viridia, ad 1·5 cm. longa cum vagina ad 5 mm. longa; pedunculi in receptaculum gradatim transeuntes, 5—6 mm. longi, basi bracteati, bracteis 5—6 mm. longis, foliis similibus; receptaculum subclavatum, 2—3 mm. longum, 3—4 mm. diam.; sepala 5, e basi superne angustata, apice obtuso vel subacuto, marginibus angustis, 3—4 mm. longa, basi 2—2·5 mm. lata; petala 3—4-seriata, intima pauca, primo in fascicula 5 disposita, inferne non, vel vix, angustata, acuta vel obtusa, roseo purpurea, 4—7 mm. longa, 0·5 mm., vel rarius ad 0·75 mm., lata; staminodia stamina longissima aequantia vel breviora, inferne rosea, superne roseo purpurea; filamenta 4—5-seriata, inferne pallida, superne roseo purpurea, extima prope basim obscure ciliate papillata, intima supra medium dense papillata; discus crenulatus; ovarium supra fere planum, lobis prope marginem ad 0·5 mm. elevatis, medium versus declinatis, obtuse compressis; stigmata 5—6, anguste subulata, ad 2·25 mm. longa cum cauda gracillima 1 mm. longa.

Cape Province: in dit. Vanrhynsdorp, “Knersvlakte, on a range of white phosphate rock in Mr. V. A. Turner’s farm Varsrivier”, Jul. 1963, *P. A. B. van Breda* 1912/63.

Ruschia klipbergensis L. Bol. sp. nov. (*Sarmentosae*).—Planta 1 visa, erecta, laxè ramosa, inter gracillimas in sectione, 33 cm. alta; rami ascendentes, superne saepe incurvati sed tamen in nullo modo sarmentosi, ad 30 cm. longi, internodiis 1—5·5 cm. longis, 1·5—4 mm. diam., novellis purpureis; folia

ascendentia, supra visa linearia acuta, carinata, lateribus convexulis, lat. visa litteram S elongatam saepe simulantia, apice saepius uncinata recurvato, 2·5—3·5 cm. longa cum vagina obscure impressa lineata 1—2 mm. longa, medio 2—4 mm. lato diametroque; flores 3-nati vel irregulariter 2-ternati; pedunculi 1·3—2·5 cm. longi, omnes bracteati, bracteis in medio vel infra medium positis, 5—8 mm. longis; receptaculum obconicum, prope medium leviter constrictum, deinde ampliatus, 3—4 mm. longum, 5—6 mm. diam.; sepala 5, acuta vel acuminata, 4·5—5 mm. longa, basi 3—4 mm. lata, interiora brunneo marginata; petala 3-seriata, inferne leviter angustata, acuta vel obtusa, rosea, marginibus vittaque roseo purpureis, 9—11 mm. longis, 0·75—1·25 mm. latis; staminodia ad stamina conice collecta appressa eaque subaequantia (collectione parum supra basim leviter constricta, inferne pallide rosea, superne roseo purpurea), cum filamentis extremis infra medium dense ciliate papillata, ad 4·5 mm. longa; filamenta intima prope apicem dense papillata, antheris pollineque albis; discus profunde divisus, segmentis acuminatis; ovarii lobi e disco erecti, obtuse compressi, ad 1·5 mm. elevati; stigmata 5, anguste subulata, 2 mm. longa cum cauda 1 mm. longa; capsula pallida, infra obconica, 10-costata, 5—6 mm. longa, supra ad 1·5—2 mm. elevata, suturis valde compressis, 7 mm., expansa 8 mm., diam., valvis erectis, tuberculo anguste oblongo, partem quartum oris loculi vix complente.

Cape Province; in dit. Darling; Klipberg, Jun. 1961, *H. Hall* 2227. N.B.G. 296/61. Fl. per annum totum a Jul. 1962 ad Aug. 1963.

Sphalmanthus praecox L. Bol. sp. nov. (*Eusphalmanthus*).—Planta 1 visa, per annos 3 et menses 3 culta; radix lignosa, 5 cm. longa, 11 mm. diam.; rami demum ca. 80 cm. longa, ad 4 mm. diam., foliis omnibus alternis; ramuli floriferi autem, per annos 2 culti, interdum paria foliorum oppositorum ad 4 ferentes, pare supremo etiam florem et gemmas axillares subtendente, 10—21 cm. longi; partes herbaceae sat conspicue papillatae, papillis rotundatis; folia lat. visa obtusa, vel apice rotundato vel in juvenilibus truncato, adulta 2·5—3·5 cm. longa, 1·5—3 mm. diam.; pedunculi 1·5—2 cm. longi; calycis tubus ca. 1 mm. longus, segmentis 5, apice rotundato, 9—18 mm. longis; corolla non bene visa, ca. 1·4 cm. longa, in alabastro pallide salmoneo rosea, cum aetate pallide brunnea ("buff"); filamenta rubra, antheris pollineque luteis; ovarium leviter elevatum; stigmata 5, ca. 1·5 mm. longa; capsula matura sponte expansa (fide Littlewood), itaque nomen.

Cape Province: Namaqualand; "15 miles N. of Concordia, Sept. 1959," *R. C. Littlewood*. Karoo Garden 359/59. Fl. Oct. 1961.

The occurrence of the spontaneous expansion observed by Mr. Littlewood in the capsule of this species is the first to be recorded in **Sphalmanthus**.

Mr. Hall has observed the same spontaneous expansion occurring in the

fruit of *Stoeberia carpii*. In his most interesting notes on this genus he states that: "the fleshy ovary, unlike that of most other 'Mesems.', only takes about 25 days to dry and mature, and that even while still partly fleshy the valves of the fruit commence opening. The peduncle tends to curve to one side, perhaps to facilitate the emission of the seeds which pour out freely at a later stage in the curving. The tall stems sway readily in a stiff breeze and in a few days the capsules are completely empty. They show no visible response to wetting, as they do in those of the vast majority of the *Mesembrieae*, which would suggest that rain plays no part in this well known seed-dispersal mechanism. This is of interest when it is realized that the rainfall is very scanty in its native habitat. But there are, of course, many other types of the *Mesembrieae* in the same area, among them being *Delosperma*, *Astridia*, *Ruschia* and *Eberlanzia*, which depend entirely on rain for seed-dispersal.

The plants of *Stoeberia carpii* brought for cultivation at Kirstenbosch in 1960, have retained their very erect habit, producing their unbranched flowering stems up to 3 feet in height in a few weeks in the spring. The internodes may be up to 5 inches in length. The glaucous colour of the leaves is maintained. About 15 flowers form successively in a loose cyme about 4—5 inches in diameter, remaining fully expanded night and day for about 10 days, with their diameter finally up to 2½ inches."

Mr. Hall has also observed that: "In the genus *Scopelogenia* from the Cape the capsules when dry release their seeds and also remain permanently open after reaching the dried state."

ADDITIONAL NOTES

Ophthalmophyllum noctiflorum L. Bol.—This species, somewhat resembling *Conophytum pillansii* in its fenestration, is interesting as being in its floral structure more closely allied to the night-flowering species in the subgenus *EUCONOPHYTUM* Schwant. than any other *Ophthalmophyllum* hitherto described and it might, therefore, be regarded as the earliest species to appear in the evolution of this genus. For, apart from the adnation of the basal part of the calyx-tube to the corolla-tube, which is the only constant characteristic separating this genus from all the rest of the *Mesembrieae*, the structure is completely that of a typical *Conophytum*. For example: the bracts are short, thus differing from the long ones, with their fenestrate tips sometimes exerted from the body, as in typical *Ophthalmophyllum*; and the receptacle is not produced into a tube so that the nectary is above the height of the ovary, as it usually is in this genus, a characteristic it shares with *Argyroderma*. The nectary throughout the *Mesembrieae* (whether it be anular or composed of separate glands or pits) marks the apex of the receptacle and the point of insertion of the stamens corolla and calyx.

Conophytum sulcatum L. Bol. with its bilobed body is another interesting species in that it might be a primitive form of the well defined group in EUCONOPHYTUM containing **C. ectypum** and its close allies, just as **C. luckhoffii** might represent a primitive form of the series *Minuscula* in the subgenus CELATISTAMINA. Other such forms occurring in the same subgenus are **C. areolatum** and **C. boreale** in the series *Fenestrata*.

In the same way the entire series *Cordiformia* of the subgenus DERENBERGIA is composed of primitive forms of **Conophytum** as represented by the type **C. truncatum** N. E. Br., where the two leaves forming the body are completely fused, forming a closed sheath except for the slit or orifice in the middle of the flattened apex of the body through which the flower emerges. In the primitive forms the two leaves are united in the lower part to form the sheath with the orifice at its apex, and their upper section is free. These sections are known as the lobes of the body and in side view are infinitely variable in shape, divergence and length, thus affording some of the best characters that are used for separating the species. At the apex of the sheath there is a pellucid, or somewhat pellucid, area, reaching the extremities of the orifice, which is also variable and is occasionally surrounded by dots. (In typical **Conophytum** a concentration of dots at the extremities of the orifice frequently occurs, and in the series *Cataphracta* depressions or "dimples" sometimes replace them.) The giants of the genus **Conophytum** are found in this series, the largest body to be recorded being 6.5 cm. long with the lobes 2 cm. long. The bodies are nearly always more or less compressed so that their diameter is usually greater than their breadth. But it has been the practice of some authors to erroneously call the diameter of the body its breadth and the latter its thickness. In the description of **C. elishae** N. E. Br., for example, the bodies are stated to be "7—14 lines long, 6—10 lines broad and 5—8 lines thick." This has caused some confusion. Another practice that has also led to confusion is connected with the terms "cordate" and "obcordate." Continental botanists rightly regard the narrow end of the heart as its base and British botanists erroneously, the broad end. For instance, the cordate body of **Conophytum dennissii** N. E. Br. and that of **C. longibracteatum** L. Bol. are both described as being obcordate.

The *Cordiformia* are concentrated in Namaqualand, especially in the northern areas, Leliefontein being the most southerly station recorded. North of the Orange River they are represented by **C. ernianum** and **C. taylorianum**, both with a pink corolla. In Dr. Tischer's classification of **Conophytum** the two remaining series *Oviger* and *Saxetana* contain the smaller species of DERENBERGIA. Here also the gradual diminution in the length of the lobes may be traced until in the border-line species these almost disappear, and it becomes difficult to decide whether they should be placed in DERENBERGIA or EUCONOPHYTUM. **C. australe**, where the lobes are absent or scarcely up to 1 mm. long in bodies of the same collection, is an example of such a case.

Conophytum praecox N. E. Br. This species was published in 1931, the locality given being Namaqualand. Since then the following collections, all from Namaqualand and represented in the Bolus Herbarium, have been made: Stellenbosch University Garden 9660, "29 miles from Port Nolloth," *H. Herre*. Fl. April 1933; N.B.G. 410/61. Richtersveld, Rooiberg, *A. J. Middlemost*. Fl. May 1962 and March 1963; N.B.G. 820/62. Richtersveld Klein Hellskloof, *B. Nordenstam* 1218. Fl. April 1963.

A second collection of **Delosperma esterhuyseniae** L. Bol. was made in the Langkloof, Humansdorp Division, by *M. Mohrhardt* in July 1962 which flowered in the University Botanic Garden, Stellenbosch in July 1963. S.U.G. 14775.

NOTE.—The type specimens of all new species and new varieties described in this paper are in the Bolus Herbarium, University of Cape Town, Rondebosch.

(To be continued.)